

### REMARKS

Claims 2, 3 and 17-32 have been canceled without prejudice or disclaimer. Claims 33-35 have been added and are supported by the specification at page 8, line 22 to page 9, line 2. Claim 1 has been amended to incorporate the limitation found in original claim 3, namely, that the particulate component has "a SPAN value of less than <sup>2.5</sup>2." Claims 1, 12, 13 and 14 have also been amended to obviate the alleged indefiniteness rejections. Claims 1, 4-16 and 33-35 are pending and present for examination.

It is respectfully submitted that the present amendment presents no new issues or new matter and places this case in condition for allowance. Reconsideration of the application in view of the above amendments and the following remarks is requested.

#### I. The Rejection of Claims 1-16 under 35 U.S.C. 112

Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as allegedly indefinite. The rejections are addressed summarized and addressed below.

a. Claim 1 and dependent claims 2-16 are rejected as indefinite for allegedly omitting an essential structural component, namely, the enzyme. As amended, claim 1 more clearly recites the enzyme component, namely, that the process entails mixing at least one enzyme and a particulate component" to form a granule. Applicants respectfully request reconsideration and withdrawal of this rejection.

b. Claim 1 and dependent claims 2-16 are rejected as indefinite for use of the phrase "mixer-granulation granule." As amended, claim 1 renders this rejection moot as the claim no longer employs the phrase "mixer granulation granule."

c. Claim 1 and dependent claims 2-16 are rejected on the basis that it is allegedly unclear how one skilled in the art would "add a particulate component to a mixer granulation process." As amended, claim 1 now clarifies that the method comprises "mixing at least one enzyme and a particulate component in a mixer granulation process." Applicants respectfully submit that amend claim 1 renders this rejection moot.

d. Claim 1 and dependent claims 2-16 are rejected as indefinite on the basis that the structural and functional relationship of the "particulate component" to the remainder of the granule is allegedly unclear and it is further alleged to be unclear what the "particulate component" possesses and how it is related to the enzyme. As amended, claim 1 now clarifies that the particular component and the enzyme are part of the granule, which is formed as a result of mixing at least one enzyme and a particulate component in a mixer granulation process.

Applicants respectfully submit that the claim now fully sets forth the structural and functional relationship of the particulate component to the enzyme and to the finished granule (comprising these components).

e. Claim 1 and dependent claims 2-16 are rejected as indefinite on the basis that the phrase "the particles of the particulate component" is confusing as it was not earlier defined that the particulate component was composed of more than one particulate. As would be well understood by an artisan, the phrase "a particulate component" (i.e., the particulate material used for making a granule) is clearly composed of many particles. Neither of the definitions for "particulate" provided by the Examiner (i.e., "minute separate particles" or "a particulate substance") reveal any uncertainty or conflict with what is meant or with what an artisan would understand by the terms "particulate component" or "particles." Indeed, each of these definitions are consistent with each other, with Applicants' definition in the specification of a particulate component and particles (see the specification at page 9, line 4 to page 13, line 3), and with how these terms are used the claims. Applicants therefore respectfully submit that the rejection of claims 1-16 as indefinite on the basis that the phrase "the particles of the particulate component" is confusing should be withdrawn.

f. Claim 1 and dependent claims 2-16 are rejected as indefinite the basis that it is allegedly unclear if the enzyme is part of the "particulate component." Amended claim 1 renders this rejection moot as it clearly sets forth that the enzyme is separate from the particulate component, and that both the enzyme and the particulate component are used to make the finished granule.

g. Claim 13 is rejected as indefinite on the basis that the Markush-type language is alleged to be confusing. Applicants have amended claim 13 in the manner proposed by the Examiner to overcome this rejection.

h. Claim 14 is rejected as indefinite on the basis that the use of the Enzyme Classification numbers is alleged to be unnecessary and renders the claim both tedious and confusing. Applicants have amended claim 14 to remove the Enzyme Classification numbers.

For the foregoing reasons, Applicants submit that the claims overcome the indefiniteness rejections under 35 U.S.C. 112. Applicants respectfully request reconsideration and withdrawal of the rejection.

## II. The Rejection of Claims 1-16 under 35 U.S.C. 102

Claims 1-16 are rejected under 35 U.S.C. 102(b) as allegedly anticipated by Herman et al. (WO 97/43482). The Examiner alleges that Herman et al. teach the preparation of a dry enzyme containing granules prepared by a mixer granulation process in which the particulate component is from 43.5% to 96.92% of the finished granule. The Examiner further alleges that it is well-known that flour has "a mean size of 40µm."

Claim 1 has been amended to incorporate the limitation found in canceled dependent claim 3, namely, that the particulate component has a SPAN value of less than 2.5. As described in the specification, one advantage of the present invention is that by improving the control of the size of the finished granules, and artisan can reduce the need for further processing of the granules. See the specification at page 5, line 29 to page 6, line 4. To this end, Applicants have determined that a narrow SPAN value of less than 2.5 for the particulate component is important for achieving this aspect of the invention.

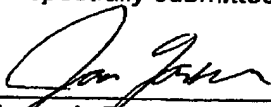
Herman et al. clearly does not teach or even suggest the importance of a SPAN value of less than 2.5, or the benefits an artisan would obtain from preparing an enzyme-containing granule according to the claimed process. Accordingly, Applicants submit that the claims overcome this rejection under 35 U.S.C. 102. Applicants respectfully request reconsideration and withdrawal of the rejection.

## III. Conclusion

In view of the above, it is respectfully submitted that all claims are in condition for allowance. Early action to that end is respectfully requested. The Examiner is hereby invited to contact the undersigned by telephone if there are any questions concerning this amendment or application.

Respectfully submitted,

Date: May 21, 2002

  
Jason I. Garbell, Reg. No. 44,116  
Novozymes North America, Inc.  
405 Lexington Avenue, Suite 6400  
New York, NY 10174-6401  
(212) 867-0123

Attorney Docket No.: 5766.200-US

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: Marcussen et al.

Confirmation No: 7010

Serial No.: 09/611,780

Group Art Unit: 1761

Filed: July 7, 2000

Examiner: Hendricks, K..

For: An Improved Process For Preparing An Enzyme Containing Granule

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

Sir:

Below is a marked-up version of the amendments made in the accompanying amendment.

**IN THE CLAIMS:**

Claims 1, 12, 13 and 14 have been amended as follows:

1. (Amended.) A process for manufacture of a dry [enzyme containing mixer granulation granule] enzyme-containing granule, said method comprising [adding a particulate component to a mixer granulation process] mixing at least one enzyme and a particulate component in a mixer granulation process to form a granule, wherein the particulate component has a SPAN value of less than 2.5 and the particles of the particulate component have a mean size of more than 40  $\mu$ m in their longest dimension, and wherein the particulate component comprises less than 75 % by weight of the finished granule [and the particles of the particulate component have a mean size of more than 40  $\mu$ m in their longest dimension].
4. (Unchanged.) The process of claim 1, wherein the particulate component is an inorganic compound selected from the group consisting of salts, minerals, clays and mixtures thereof.
5. (Unchanged.) The process of claim 4 wherein the salt is selected from the group consisting of alkali- and earth alkali salts of phosphate, sulphate, chloride and carbonate.
6. (Unchanged.) The process of claim 4 wherein the mineral is selected from the group

consisting of talcs, zeolites, and silicates.

7. (Unchanged.) The process of claim 4 wherein the clay is selected from the group consisting of kaolin and bentonite.
8. (Unchanged.) The process of claim 1, wherein the particulate component is organic.
9. (Unchanged.) The process of claim 8, wherein the particulate component is a vegetable flour.
10. (Unchanged.) The process of claim 9, wherein the vegetable is a cereal grain, a legume, a fruit or a nut or a combination thereof.
11. (Unchanged.) The process of claim 10, wherein the cereal grain is selected from the group consisting of wheat, rye, barley, oats, rice, maize and sorghum.
12. (Amended.) The process of claim 8, wherein the [particular] particulate component has been treated with dry superheated steam.
13. (Amended.) The process of claim 1, wherein the granule further comprises [one or more] a granulating agent[s] selected from the group consisting fiber materials, binders, fillers, liquid agents, enzyme stabilizers, suspension agents, crosslinking agents, mediators, solvents and combinations of any of the foregoing.
14. (Amended.) The process of any preceding claim, wherein the enzyme is selected from the group consisting of oxidoreductases, [EC 1.-.-.-] transferases, [EC 2.-.-.-] hydrolases, [EC 3.-.-.-] lyases, [EC 4.-.-.-] isomerases, [EC 5.-.-.-] and ligases[, EC 6.-.-.-].
15. (Unchanged.) The process of claim 1, wherein the mixer granulation process is a high shear mixing process.
16. (Unchanged.) The process of claim 1, further comprising a step of coating the granule.